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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/504,330	02/14/2000	Paul H. Leamon	4889:70	7759

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DAVID H. JUDSON
15455 DALLAS PARKWAY
SUITE 600
ADDISON, TX 75001

EXAMINER	
NGUYEN, CUONG H	
ART UNIT	**PAPER NUMBER**
3625	

DATE MAILED: 04/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/504,330	LEAMON, PAUL H.
	Examiner	Art Unit
	CUONG H. NGUYEN	3625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7,12-17,19-24,26-28,30 and 31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,12-17,19-24,26-28,30 and 31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is the answer to the response received on 3/03/2004, which paper has been placed of record in the file.

2. Claims **1-7, 12-17, 19-24, 26-28, 30-31** are pending in this application.

Response

3. The examiner withdraws 35 USC 101 rejections of claims **1-7, 12-17, 19-24, 26-28, 30-31** because those claims are further clarified by amendment dated 2/03/2004.

Based on a supplemental search, the examiner submits new ground of rejections on 35 USC 103(a) are applied for a combination of **Crockett** (US Pat. 5,325,292 - published on 6/28/1994), in view of **Maggie Klenke,** and further in view of **Neyman** et al. (US Pat. 6,480,600).

In the interview on 1/28/2004, the critical issue that the applicant wants to make it stand-out in the inventions is an ability of ACD to predict or forecast based on schedule simulation. This was taught by a combination of Maggie Klenke, Neyman et al., and Crockett (see Klenke, pg.48, 2nd col., lines 36-39, and pg.51, 1st col., lines 49-56).

The applicant argues that "there is no disclosure of forecasting for future contacts", the examiner submits that Neyman et al.'s patent, and Klenke's article teach about future use of ACD by simulations (see **Neyman** et al., 14:6-

16, 16:8-20), **Klenke**, page 48, 1st col., lines 8-19, 2nd col., lines 8-9, and lines 20-25).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. **Claims 1-7, 12-17, 19-24, 26-28, 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crockett (US Pat. 5,325,292), in view of Maggie Klenke's article, and further in view of Neyman** et al. (US Pat. 6,480,600).

A. Re. To claims **1, 6-7, 17**: Crockett & Klenke suggest all limitations of these claims. **Klenke** further suggests a method of allocating and scheduling in a skill-based contact center environment organized into a hierarchy of a business unit at a 1st level, a contact types at a 2nd level, and a management unit at a 3rd level (see **Klenke** pg.43, 1st col., lines 47 to 2:3), comprising:

- creating a set of given contact allocations that define how contacts are distributed from a given business unit to multiple contact types, this creation can give a range for minimum to maximum allocations (see **Klenke** pg.48, 1st col., lines 39-41, pg.48, 1st col., lines 43 to 2nd col., line 3, and pg.49, 1st col., lines 14-32);

- creating a set of given requirement allocations that define how agent requirements are distributed from a contact type to a management unit; (see **Klenke,** Table 1); and
- allocating forecasted contacts/agents based on the given contact and requirement (see **Klenke,** Table 2)(please note that allocating 2 related objects (contact & agent) are redundant; it would be a similar task whether it is allocating contacts to agents, or allocating agents to contacts).
- Although Crockett and Klenke do not expressly say that a simulation was done in ACD applications, **Neyman** et al. teach that a simulating program is used in ACD environment (see **Neyman** et al., 14:6-16, 16:8-20).

It would be obvious to one with ordinary skill in the art that this problem was raised and solutions were suggested in Crockett patent and supporting with **Klenke**'s article, **Neyman** et al., wherein the goal of automated call distributor (ACD) technology has always been to spread incoming calls among call center agents so that each agent handled and equitable share of the load and the caller had the best chance of being served quickly. And a new kind of thinking - skills-based routing - has entered the call center arena. It would takes ACDs one step further and ensures that an incoming call is routed to the available agent whose skills are best matched to the caller's needs.

B. Re. To claim **2**: Crockett & Klenke suggest all limitations of claim 1. **Klenke** further suggests given contact

allocations are minimum contact location (see **Klenke**, pg.48, 42-43; and pg.51, 1st col., lines 1-3).

C. Re. To claims **3, 19, 21**: Crockett & Klenke suggest all limitations of claims 2, 17. **Klenke** further suggests given requirement allocations are minimum agent requirement allocations (see **Klenke**, pg.48 1st col., lines 42-48 pg.50, 2nd col., lines 29-32, and pg.51 1st col., lines 1-3).

D. Re. To claim **4**: Crockett & Klenke suggest all limitations of claim 1. **Klenke** further suggests given contact allocations are maximum contact allocation (see **Klenke**, pg.50, 1st col., lines 41-43, 2nd col., lines 4-8, and 15-19).

E. Re. To claims **5, 19, 21**:

Klenke suggests given requirement allocations are maximum agent requirement allocations (see **Klenke**, pg.48, 2:36-39, pg.50, 2nd col., lines 15-19).

Klenke further suggests allocating forecasted contacts and forecasted requirements (see **Klenke**, pg.51, 1st col., lines 20-23).

Klenke further suggests predicting the agent availability data (see **Klenke**, pg.51, 1st col., lines 20-23).

Although Crockett and Klenke do not expressly say that a simulation was done in ACD applications, **Neyman** et al. teach that simulating program is used in ACD environment (see **Neyman** et al., 14:6-16, 16:8-20).

Klenke further suggests agent availability data is predicted by a schedule simulation (see **Klenke,** pg.51, 1st col., lines 49-56).

Klenke further suggests agent availability data is characterized by contact type (see **Klenke,** pg.51, 2nd col., lines 37-39).

J. Re. To claim **12**: Crockett & Klenke suggest all limitations of claim 1. **Klenke** further suggests generating agent schedules for the management units (see **Klenke,** pg.51, 1st col., lines 49-56).

K. Re. To claim **13**: Crockett & Klenke suggest all limitations of claim 1. **Klenke** further suggests a management unit is a collection of agents located at a given contact center location (see **Klenke,** pg.48, 1st col., lines 1-18).

L. Re. To claim **15**: Crockett & Klenke suggest all limitations of claim 1. **Klenke** further suggests a contact center environment is a contact center environment is a telephone call center (see **Klenke,** pg.48, 1st col., lines 1-18).

M. Re. To claim **16**: Crockett & Klenke suggest all limitations of claim 1. **Klenke** further suggests a contact center environment is a contact center that handles a contact selected from the group consisting of: telephone calls, voice mails (see **Klenke,** pg.48, 1st col., lines 1-18).

N. Re. To claims **17, 22**:

Crockett & Klenke suggest an allocation method operative in a skill-based call center environment; comprising:

- organizing the call center environment into a hierarchy of one business unit at a first level, one call types at a second level, and a set of one management unit at a third level; and allocating a percentage of incoming calls from a given business unit to one call type (see **Klenke,** pg.48, 1st col., lines 39-41, 1st col., line 43 to 2nd col., line 3; and 2nd col., lines 20-25); and allocating agent requirements for a given call type to one management unit (see **Klenke,** pg.48, 2nd col., lines 4-12).

- Although Crockett and Klenke do not expressly say that a simulation was done in ACD applications, Neyman et al. teach that a simulating program is used in ACD environment (see **Neyman** et al., 14:6-16, 16:8-20).

It would be obvious to one with ordinary skill in the art that this problem was raised and solutions were suggested in Crockett patent and supporting with **Klenke**'s article, **Neyman** et al.'s patent, wherein the goal of automated call distributor (ACD) technology has always been to spread incoming calls among call center agents so that each agent handled and equitable share of the load and the caller had the best chance of being served quickly. And a new kind of thinking - skills-based routing - has entered the call center arena. It would takes ACDs one step further and

ensures that an incoming call is routed to the available agent whose skills are best matched to the caller's needs.

O. Re. To claim **26, 30**:

Crockett & Klenke suggest an allocation method operative in a skills-based contact center environment comprising:

- organizing the contact center environment into a hierarchy of zero business unit at a first level, one contact type at a second level, and a set of one management units at a third level (see **Klenke**, pg.49, 2nd col., lines 32-38); and
- allocating agent requirements for a given contact type to one management unit (see **Crockett** 7:5-23, and 17:44-57.

Klenke fails to disclose about allocating a percentage of contacts from a given business unit to one contact type.

However, **Crockett** suggests to use of percentage of calls in an ACD center to one contact type for his calculations (e.g., see **Crockett** 17:52-58).

Although Crockett and Klenke do not expressly say that a simulation was done in ACD applications, Neyman et al., teach that simulating program is used in ACD environment (see **Neyman** et al., 14:6-16, 16:8-20).

It would be obvious to one with ordinary skill in the art that this problem was raised and solutions were suggested in Crockett, **Neyman** et al., with **Klenke**'s article

wherein the goal of automated call distributor (ACD) technology has always been to spread incoming calls among call center agents so that each agent handled and equitable share of the load and the caller had the best chance of being served quickly. And a new kind of thinking - skills-based routing - has entered the call center arena. It would takes ACDs one step further and ensures that an incoming call is routed to the available agent whose skills are best matched to the caller's needs.

P. Re. To claim **20**: Crockett & Klenke suggest all limitations of claim 17, wherein said given call allocations and the given requirement allocations are maximum values (see **Klenke,** pg.50, 2nd col., lines 15-19).

Q. Re. To claim **21**: Crockett & Klenke suggest all limitations of claim 17, given call allocations and the given requirement allocations are minimum and maximum values (see **Klenke,** pg.50, 2nd col., lines 15-19).

R. Re. To claims **14, 23, 27, 31**: **Klenke** further suggest a given management unit is a collection of agents at least some of which are multi-skilled (see **Klenke,** pg.49, 1st col., lines 26-30 and pg.50, 1st col., lines 38-40).

S. Re. To claims **24, 28**: **Klenke** further suggests a given call type is associated with a given automatic call distributor (ADC). This obviously contains that a given contact type is associated with a given automatic work distributor (see **Klenke,** pg.49, 1st col., lines 6-10).

The examiner submits that all claimed limitations are old and well-known in the art relating to ACD (applicant & the examiner discussed that in the interview on 1/28/2004), one reason is because these claimed limitations are very broad that they are easily recognized by artisan in the art to be ability/features of any computerized ACD system and said components would perform claimed tasks/steps; cited prior art's limitations are not necessary spelled-out exactly claimed languages, because cited prior art is also directed to a similar process/system for ACD communication. It is reasonable that modifications of the described method or system of the cited prior art would be apparent to those skilled in the art without departing from the scope and spirit of cited references.

Conclusion

5. Claims **1-7, 12-17, 19-24, 26-28, 30-31** are unpatentable.

6. These references are pertinent to the claimed subject matter:

- From http://www.findarticles.com, "TotalNet call routing from IEX adds support for IP Technology", Business Wire, 11/14/2000.

- From http://www.findarticles.com, "IEX wins call center news service editor's choice award; TotalNet call routing praised for Multi-Vendor capabilities", Business Wire, 9/26/2000.

- From http://www.findarticles.com, Fukunaga, "Staff scheduling for inbound call centers and customer contact centers", AI Magazine, Winter 2002 - the subject matter is about forecasting schedules for available agents.

- **Fletcher** et al., (EP0353102 - 1/31/1990), teach about automatic call distribution (ACD) switching system having distributed processing capability.

- **Shinichi**, JP2001119485 - 4/27/2001, teaches a method of automatic to automatically distribute incoming calls.

- **Flockhart** et al., (EP1126731 - 8/22/2001), teach a customer controlled network routing to automatic call distribution system - that patent's subject matter is about automatically matching (by simulating/programming) available agents.

- DURINOVIC-JOHRI SANJA et al., US Pat. 6,263,065 (7/17/2001), Method and apparatus for simulating central queue for distributing call in distributed arrangement of automatic call distributors (current US class. 379/266.03; 379/265.02; 379/309; IPC. H04M 3/00, H04M3/32A, H04M3/523N (priority date: 3/18/1997), wherein calls may be distributed and load balancing maintained for a distributed automatic call distributor (ACD) system by simulating a central FIFO queue at the central routing point of the system. The simulated FIFO queue either requires that the number of calls in queue and the oldest call waiting time of calls at each automatic call distributor be periodically provided to the central routing

point or event-based data be provided on each call answered in the system or not routed by the central routing point. Deviations from FIFO order of service recorded at the simulated FIFO queue may signal the need for requiring a call at another automatic call distributor. With additional information on agents available, the call removal rate may be estimated. Also, delay estimates may be updated based on comparing actual and estimated delays over time. The routing point may be updated with traffic data through, for example, a known telemarketing operations performance management system (TOPMS) or directly from the automatic call distributors via the toll telecommunications network.
- **Crockett** (US Pat. 5,325,292, published on 6/28/1994) about a tour/schedule generation for a force management system.

7. Remark: Cambridge Advanced Learner's Dictionary definition of "allocate": to give something to someone as their share of a total amount, for them to use in a particular way: The government is allocating £10 million for health education.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CUONG H. NGUYEN whose number is 703-305-4553. The examiner can normally be reached on 7am-3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's acting supervisor, JEFFREY A. SMITH can be reached on 703-308-3588. The fax phone number

for the organization where this application or proceeding is assigned is 703-305-7687/703-746-5572.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Please provide support, with page and line numbers, for any amended or new claim in an effort to help advance prosecution; otherwise any new claim language that is introduced in an amended or new claim may be considered as new matter, especially if the Application is a Jumbo Application.

Cuonghnguyen

CUONG H. NGUY
Primary Examin
Art Unit 3625